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ALEXANDRIA, VA 22314

EXAMINER
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PATEL, MUNJALKUMAR C

ART UNIT	PAPER NUMBER
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2617

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,171	<b>Applicant(s)</b> KIM, YOUNG-LAK	
	<b>Examiner</b> Munjal Patel	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/24/2008</u>  | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Art Unit- Location***

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

### ***Claim Objections***

1. Claim 2 is objected to because of the following informalities: Claim 2 recites ....The CDMA-2000 modem is activated in step (d) while the WCDMA signal is still

being received over the CPICH,

2. However, in the specification (2<sup>nd</sup> embodiment on page 8) step (d) if the time lapse exceeds the Hd, activating a CDMA-2000 modem, and determining whether a WCDMA call is terminated; further on page 15 line [11-12] specifying “ It takes approximately several seconds until the WCDMA modem 342 is inactivated” but before that Applicant mentions on page 15 lines [8-11] “Furthermore once the CDMA-2000 modem 344 is activated, the controller 360 generates and transmits an inactivation signal to stop activating the WCDMA modem”.

3. Having “determining if the WCDMA call is terminated” is different then “WCDMA signal is still being received”. Appropriate correction is required.

4. For the purpose of applying prior art, the examiner is interpreting this limitation in accordance with the Applicant's specification.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over

**Amerga et al (US Patent # US 7,110765 B2)** as applied to claims above, herein after

referred as Amerga, and further in view of **Choi et al.(US Patent # US 7,096020 B2)**

**herein after referred as Choi.**

4. **Regarding claim 1, Amerga** discloses an apparatus and method for limiting cell

reselection based on pilot power which reads on a method of switching between a

WCDMA modem and a CDMA-2000 modem of an MM-MB (multimode-multiband)

terminal (**Amerga: Fig 3 & column 5 lines [43-48]** discloses system which can

**perform modem switching (WCDMA & CDMA-2000) in a system, which is**

**multimode-multiband functionality**), when the MM-MB terminal being in a WCDMA

idle state (**Amerga: column 5 lines [43-46]**) moves from an overlay zone into a CDMA-

2000 zone (**Amerga: column 5 lines [47-48]**), said method comprising the steps of:

(a) receiving a WCDMA signal transmitted from a WCDMA system (**Amerga: Fig 2:**

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tuning receiver 220), and measuring (**Amerga: Column 6, lines [12-16] Signal strength estimator**) an  $E_c/I_o$  (energy of carrier/interference of others) value by using the WCDMA signal;

(b) determining (**Amerga: Column 6 lines [64-67] decision block 320, column 7 lines [1-6]**) whether the  $E_c/I_o$  (**Amerga: Column 8, lines [45-46], Fig 5A & 5B, step 330**) is smaller than a predetermined CDMA-2000 ON threshold  $TH_{on}$  (**Amerga: Column 8 lines [47]  $Q_{qual\ min}$ = threshold for minimum required quality level of the cell**);

(c) if the  $E_c/I_o$  value is smaller than  $TH_{on}$  (**Amerga: Column 8 lines [35] Equation Squal**), starting to measure a time lapse (**Amerga: Column 8, lines [11-14] fig 3: DRX cycle**), and determining whether the time lapse exceeds a preset CDMA-2000 ON condition time  $H_d$  (**Amerga: Column 9 lines [15]  $N$  cycles**);

(d) if the time lapse exceeds  $H_d$ , activating the CDMA-2000 modem (**Amerga: Column 9 lines [12-17]**); and

(e) performing an initialization for a CDMA-2000 system to switch the MM-MB terminal from the WCDMA idle state into a CDMA-2000 idle state (**Amerga: Fig 5A & 5B, Column 9 lines [12-17][21-57]**).

However, **Amerga** fails to disclose specifically Multi Mode-Multi Band terminal which has CDMA-2000 modem & WCDMA modem, **however**, the examiner maintains that it was well known in the art to provide a terminal with dual-band dual mode which has CDMA modem and WCDMA modem which serves functionally same as MM-MB terminal as taught by **Choi** (**Choi: Fig 2, 3 & Column 3 lines [56-57]**).

In a similar field of endeavor **Choi** discloses a System and method for

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implementing a handoff using a multiparty service in a mobile communication system. In addition, **Choi** discloses Dual mode dual band which has CDMA & WCDMA modem.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Amerga** by specifically providing a terminal with multi-band multi mode which has CDMA modem and WCDMA modem as taught by **Choi** for the purpose of implementing handoff between heterogeneous networks (**Choi: Column 2 lines [41-45]**).

5. **Regarding claim 2, Amerga** in view of **Choi** discloses everything in claim 1 as above along with MM-MB terminal (**Choi: Fig 2, 3 & Column 3 lines [56-57]**) inspects a CPICH (common pilot channel) periodically to receive the WCDMA signal at step (a) (**Amerga: column 7 lines [59-65]**); and

The CDMA-2000 modem is activated in step (d) while the WCDMA signal is still being received over the CPICH . However, **Amerga** in view of **Choi** fails to disclose specifically The CDMA-2000 modem is activated in step (d) while the WCDMA signal is still being received over the CPICH. However, the examiner maintains that it was well known in the art to provide The CDMA-2000 modem is activated in step (d) while the WCDMA signal is still being received over the CPICH as taught by **Choi**(**Choi: Column 7 lines [09-17]**).

In a similar field of endeavor **Choi** discloses a System and method for implementing a handoff using a multiparty service in a mobile communication system. In addition, **Choi** discloses The CDMA-2000 modem is activated in step (d) while the

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WCDMA signal is still being received over the CPICH.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Amerga** by specifically providing The CDMA-2000 modem is activated in step (d) while the WCDMA signal is still being received over the CPICH as taught by **Choi** for the purpose of maintaining call connection while handoff is taking place.

6. **Regarding claim 3, Amerga** in view of **Choi** discloses everything in claim 1 as above, along with the time lapse at step (c) (**Amerga: column 8 lines [11-14], Fig 3:DRX cycle**) is a cumulative time during which the  $E_c/I_o$  value is maintained smaller than the CDMA-2000 ON threshold  $TH_{on}$  (**Amerga: Fig 5A & column 10 lines [44-49]**). This claim is rejected for the same motivation as claim 1.

7. **Regarding claim 4, Amerga** in view of **Choi** discloses everything in claim 1 as above, along with initialization at step (e) is performed 'through a system determination sub state (**Amerga: Fig 5A: 504**), a pilot channel acquisition sub state (**Amerga: Fig 5A: 502**) and a synchronous channel acquisition sub state (**Amerga: Fig 5A: 552**). This claim is rejected for the same motivation as claim 1.

8. **Regarding claim 5, Amerga** in view of **Choi** discloses everything in claim 1 as above along with after being switched (**Amerga: Fig 5A, 5B & column 9 lines [12-17][21-57]**) into the CDMA-2000 idle state at step (e), the MM-MB terminal deactivates

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the WCDMA modem (**Amerga: column 8 lines [11-28]**). This claim is rejected for the same motivation as claim 1.

9. **Regarding claim 6, Amerga** discloses a method of limiting cell reselection based on pilot power which reads on method of switching between a WCDMA modem and a CDMA-2000 modem of an MM-MB terminal, when the MM-MB terminal moves from an overlay zone into a CDMA-2000 zone while handling a WCDMA call, said method comprising the steps of :

(a) receiving a WCDMA signal transmitted from a WCDMA system, and measuring an  $E_c/I_o$  (energy of carrier/interference of others) value by using the WCDMA signal

**(Amerga: column 5 lines [43-48]);**

(b) determining (**Amerga: column 6 lines [64-67] decision block 320, column 7 lines [1-6]**) whether the  $E_c/I_o$  value (**Amerga: column 8 lines [45-46], Fig 5A & 5B, step 330**) is smaller than a predetermined CDMA-2000 ON threshold  $TH_{on}$  (**Amerga: column 8 lines [47] Q-qual min = threshold for minimum required quality level of the cell**);

(c) if the  $E_c/I_o$  value is smaller than the  $TH_{on}$  (**Amerga: column 8 lines [35] Equation Squall**), starting to measure a time lapse, and determining (**Amerga: column 8 lines [11-14], Fig 3: determining based on consecutive DRX cycles**) whether the time lapse exceeds a preset CDMA-2000 ON condition time  $H_d$  (**Amerga: column 9 lines [15] N cycles**);

(d) if the time lapse exceeds  $H_d$ , activating the CDMA-2000 modem (**Amerga: column**



**9 lines [12-17]]**, and then determining whether the WCDMA call has been terminated

**(Amerga: Fig 5A & 5B : 550, 552); and**

(e) if the WCDMA call is determined to have been terminated, performing an initialization for a CDMA-2000 system to switch **(Amerga: Fig 5A, 5B & column 9 lines [12-17][21-57])** the MM-MB terminal into a CDMA-2000 idle state **(Amerga: column 9 lines [12-17][21-23])**.

However, **Amerga** fails to disclose specifically when the MM-MB terminal moves from an overlay zone into a CDMA-2000 zone while handling a WCDMA call. However, the examiner maintains that it was well known in the art to provide when the MM-MB terminal moves from an overlay zone into a CDMA-2000 zone while handling a WCDMA call as taught by **Choi (Choi: Column 7 lines [09-17] discloses Dual band dual mode terminal, further on column 4 lines [57-60] discloses terminal also supplies power to CDMA unit i.e. terminal moves from overlay zone in to CDMA zone while handling a WCDMA call)**.

In a similar field of endeavor **Choi** discloses a System and method for implementing a handoff using a multiparty service in a mobile communication system. In addition, **Choi** discloses when the MM-MB terminal moves from an overlay zone into a CDMA-2000 zone while handling a WCDMA call.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Amerga** by specifically providing when the MM-MB terminal moves from an overlay zone into a CDMA-2000 zone while handling a WCDMA call as taught by **Choi** for the purpose of maintaining call connection while

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handoff is taking place.

10. **Regarding claim 7, Amerga** in view of **Choi** discloses everything in claim 6 as above along with the MM-MB terminal inspects a CPICH (common pilot channel) periodically to receive the WCDMA signal at step (a) (**Amerga: Column 8 lines [59-65]**); and the CDMA-2000 modem is activated in step (d) while the WCDMA call is still being handled by the WCDMA modem (**Choi: Column 7 lines [09-17]**). This claim is rejected for the same motivation as claim 6.

11. **Regarding claim 8, Amerga** in view of **Choi** discloses everything in claim 6 as above along with the time lapse at step (c) (**Amerga: Column 8 lines [11-14], Fig 3:DRX cycle**) is a cumulative time during which the  $E_c/I_o$  value is maintained smaller than the CDMA-2000 ON threshold  $TH_{on}$  (**Amerga: Fig 5A & Column 10 lines [44-49]**). This claim is rejected for the same motivation as claim 6.

12. **Regarding claim 9, Amerga** in view of **Choi** discloses everything in claim 6 as above along with wherein, if the WCDMA call is determined to have not been terminated at step (d) the method further includes the steps of: (d1) determining (**Amerga: Fig 3:320**) whether the  $E_c/I_o$  value (**Amerga: Column 8 lines [45-46], Fig 5A, 5B , step 330**) is larger than a predetermined CDMA-2000 OFF threshold  $TH_{off}$  (**Amerga: Fig 5A & Column 10 lines [44-49]**);

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(d2) if the  $E_c/I_o$  value (**Amerga: Column 8 lines [45-46], Fig 5A, 5B , step 330**) is larger than  $TH_{off}$ , starting to measure another time lapse, and determining whether said another time lapse exceeds a preset CDMA-2000 OFF condition time  $H_c$  (**Amerga: Fig 5A: 508, 510 & Column 9 lines [09-21]**); and

(d3) if said another time lapse exceeds  $H_c$ , deactivating the CDMA-2000 modem that has been activated at step (d) and returning to step (a) (**Amerga: Fig 5A: 508, 510 & Column 9 lines [09-21]**). This claim is rejected for the same motivation as claim 6.

13. **Regarding claim 10, Amerga** in view of **Choi** discloses everything in claim 9 as above along with if the  $E_c/I_o$  value is not larger than  $TH_{off}$  at step (d1), the MM-MB terminal returns to step (d) to determine (**Amerga: Fig 5A: 508, 510 & Column 9 lines [09-21]**) once more whether the WCDMA call is terminated. This claim is rejected for the same motivation as claim 9.

14. **Regarding claim 11 Amerga** in view of **Choi** discloses everything in claim 9 as above along with said another time lapse at step (d2) is a cumulative time during which the  $E_c/I_o$  value is maintained larger than the CDMA-2000 OFF threshold  $TH_{off}$  (**Amerga: Fig 5A: 506 & Column 9 lines [12-14]**). This claim is rejected for the same motivation as claim 9.

15. **Regarding claim 12 Amerga** in view of **Choi** discloses everything in claim 9 as above along with if the time lapse does not exceed the CDMA-2000 OFF condition time

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Hc at step (d2), the MM-MB terminal returns to step (d) to determine once more whether the WCDMA call has been terminated (**Amerga: Fig 5A: 506, 508 & 554**). This claim is rejected for the same motivation as claim 9.

16. **Regarding claim 13, Amerga** in view of **Choi** discloses everything in claim 6 as above along with step (e) further includes the sub-steps of:

(e1) inspecting another service channel FA (frequency assignment) of the WCDMA system (**Amerga: Fig 5B: 510**);

(e2) determining whether another WCDMA signal is found (**Amerga: Fig 5B:512, 514**);  
and

(e3) if said another WCDMA signal is found, switching the MM-MB terminal into a WCDMA idle state (**Amerga: Fig 5B:514 & Column 4 lines [58-60]**). This claim is rejected for the same motivation as claim 6.

17. **Regarding claim 14, Amerga** in view of **Choi** discloses everything in claim 13 as above along with if said another WCDMA signal is not found at step (e2), the MM-MB terminal performs said initialization into the CDMA-2000 system to be switched (**Amerga: Fig 5A & 5B & Column 9 lines [12-17][21-57]**) into said CDMA-2000 idle state (**Amerga: Fig 3:330-370 & Column 8 lines [65-68]**). This claim is rejected for the same motivation as claim 13.

18. **Regarding claim 15, Amerga** in view of **Choi** discloses everything in claim 14

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as above along with after being switched (**Amerga: Fig 5A & 5B & Column 9 lines [12-17][21-57]**) into the CDMA-2000 idle state, the MM-MB terminal deactivates the WCDMA modem. This claim is rejected for the same motivation as claim 14 along with claim 5 as method of MM-MB terminal deactivating the modem after being switched to a particular state will remain identical.

**Regarding claim 16, Amerga** discloses a method for limiting cell reselection based on pilot power which reads on method of switching between a CDMA-2000 modem and a WCDMA modem of an MM-MB (multimode-multiband) terminal, when the MM-MB terminal being in a CDMA-2000 idle state moves from a CDMA-2000 zone into an overlay zone, said method comprising the steps of:

(a) monitoring (**Amerga: Fig 3:310, 320, 330**) a paging channel of a CDMA-2000 system periodically while maintaining the MM-MB terminal in the CDMA-2000 idle state (**Amerga: Fig 5A, 5B & Column 4 lines [58-61] & Column 5 lines [47-48] discloses a paging channel of the serving cell, in this case it will be the CDMA-2000 as MM-MB terminal is maintained in CDMA-2000 idle state**);

(b) analyzing an overhead message received from the CDMA-2000 system and determining whether the MM-MB terminal is located in the overlay zone (**Amerga: Fig 5A: 504-506-508, & Fig 5B**);

(c) if the MM-MB terminal is determined to be located in the overlay zone, activating the WCDMA modem (**Amerga: Fig 3:350-360**); and

(d) performing an initialization process for a WCDMA system to switch (**Amerga: Fig**

**5A, 5B & Column 9 lines [12-17][21-57])** the MM-MB terminal from the CDMA-2000 idle state into a WCDMA idle state (**Amerga: Fig 3:370**).

However, **Amerga** fails to disclose specifically Multi Mode-Multi Band terminal which has CDMA-2000 modem & WCDMA modem, **however**, the examiner maintains that it was well known in the art to provide a terminal with multi-mode multi-band which has CDMA modem and WCDMA modem which serves functionally same as MM-MB terminal as taught by **Choi (Choi: Fig 2, 3 & Column 3 lines [56-57])**.

In a similar field of endeavor **Choi** discloses a System and method for implementing a handoff using a multiparty service in a mobile communication system. In addition, **Choi** discloses Dual mode dual band which has CDMA & WCDMA modem.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Amerga** by specifically providing a terminal with multi-band multi mode which has CDMA modem and WCDMA modem as taught by **Choi** for the purpose of implementing handoff between heterogeneous networks (**Choi: Column 2 lines [41-45]**).

19. **Regarding claim 17, Amerga** in view **Choi** discloses everything in claim 16 as above along with MM-MB terminal determines (**Amerga: Fig 5A, 5B**) whether the MM-MB terminal is located in the overlay zone by investigating a base ID of a system parameter included in the overhead message analyzed at step (b).

20. **Amerga** in view of **Choi** fails to disclose explicitly “by investigating a base ID of a system parameter message included in the overhead message analyzed at step (b)”.

21. However it is obvious to one of ordinary skill in the art that one of the main advantages of implementing CDMA technology is the use of soft handoffs, which allows a mobile device to monitor multiple base stations simultaneously. Further, it is common practice for the current base station to provide information (*i.e.* PN code offsets) of the surrounding neighboring cells in order for the mobile device to easily monitor the signal strength of the handoff candidates in order to facilitate fast acquisition and accurate measurements during soft handover.

22. **Regarding claim 18, Amerga** in view of **Choi** discloses everything in claim 16 as above along with if the MM-MB terminal is not determined to be located in the overlay zone at step (b), the MM-MB terminal returns to step (a) to monitor the paging channel again (**Amerga: Fig 3:310-330**). This claim is rejected for the same motivation as claim 16.

23. **Regarding claim 19, Amerga** in view of **Choi** discloses everything in claim 16 as above along with after being switched into the WCDMA idle state (**Amerga: Fig 5A, 5B & Column 9 lines [12-17][21-57]**), the MM-MB terminal deactivates the CDMA-2000 modem. This claim is rejected for the same motivation as claim 16 along with the claim 5 as method of MM-MB terminal deactivating the modem after being switched to a particular state will remain identical.

**Regarding claim 20, Amerga** discloses a method for limiting cell reselection

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based on pilot power which reads on a method of switching between a CDMA-2000 modem and a WCDMA modem of an MM-MB (multimode-multiband) terminal, when the MM-MB terminal being in a CDMA-2000 traffic state moves from a CDMA-2000 zone into an overlay zone, said method comprising the steps of:

(a) monitoring a paging channel of a CDMA-2000 system periodically while maintaining the MM-MB terminal in the CDMA-2000 traffic state to handle a CDMA-2000 call

**(Amerga: Fig 3:310-330);**

(b) analyzing an overhead message received from the CDMA-2000 system and determining whether the MM-MB terminal is located in the overlay zone **(Amerga: Fig 5A: 504, 506, 508);**

(c) if the MM-MB terminal is determined to be located in the overlay zone, determining whether the CDMA-2000 call has been terminated while maintaining the MM-MB terminal in the CDMA-2000 traffic state **(Amerga: Fig 3:350-360);**

(d) if the CDMA-2000 call is determined to have been terminated, activating the WCDMA modem; and (e) performing an initialization process for a WCDMA system to switch **(Amerga: Fig 5A & 5B column 9 lines [12-17][21-57])** the MM-MB terminal into a WCDMA idle state **(Amerga: Fig 3:370).**

However, **Amerga** fails to disclose specifically Multi Mode-Multi Band terminal which has CDMA-2000 modem & WCDMA modem, **however**, the examiner maintains that it was well known in the art to provide a terminal with multi-mode multi-band which has CDMA modem and WCDMA modem which serves functionally same as MM-MB terminal as taught by **Choi (Choi: Fig 2, 3 & Column 3 lines [56-57]).**



In a similar field of endeavor **Choi** discloses a System and method for implementing a handoff using a multiparty service in a mobile communication system. In addition, **Choi** discloses Dual mode dual band which has CDMA & WCDMA modem.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Amerga** by specifically providing a terminal with multi-band multi mode which has CDMA modem and WCDMA modem as taught by **Choi** for the purpose of implementing handoff between heterogeneous networks (**Choi: Column 2 lines [41-45]**).

24. **Regarding claim 21, Amerga** in view of **Choi** discloses everything in claim 20 as above along with the MM-MB terminal determines (**Amerga: Fig 5A, 5B**) whether the MM-MB terminal is located in the overlay zone by investigating a base ID of a system parameter included in the overhead message analyzed at step (b). **Amerga** in view of **Choi** fails to disclose explicitly “by investigating a base ID of a system parameter message included in the overhead message analyzed at step (b)”.

However it is obvious to one of ordinary skill in the art that one of the main advantages of implementing CDMA technology is the use of soft handoffs, which allows a mobile device to monitor multiple base stations simultaneously. Further, it is common practice for the current base station to provide information (*i.e.* PN code offsets) of the surrounding neighboring cells in order for the mobile device to easily monitor the signal strength of the handoff candidates in order to facilitate fast acquisition and accurate measurements during soft handover.

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25. **Regarding claim 22, Amerga** in view of **Choi** discloses everything in claim 20 as above along with if the MM-MB terminal is not determined to be located in the overlay zone at step (b), the MM-MB terminal returns to step (a) to monitor the paging channel again (**Amerga: Fig 3:310-330**). This claim is rejected for the same motivation as claim 20.

26. **Regarding claim 23, Amerga** discloses everything in claim 20 as above along with after being switched (**Amerga: Fig 5A, 5B & Column 9 lines [12-17] [21-57]**) into the WCDMA idle state, the MM-MB terminal deactivates the CDMA-2000 modem. This claim is rejected for the same motivation as claim 20 along with the claim 5 as method of MM-MB terminal deactivating the modem after being switched to a particular state will remain identical.

27. **Regarding claim 24, Amerga** discloses an apparatus which reads on multimode-multiband terminal capable of accommodating both a synchronous CDMA-2000 service and an asynchronous WCDMA service and operating in at least two frequency bands, said terminal comprising:

an RF (radio frequency) antenna (**Amerga: Fig 2:210**) for transceiving a CDMA-2000 signal and/or a WCDMA signal;

an RF transceiver (**Amerga: receiver 220 in column 6 line [40]**) coupled to the RF antenna for demodulating a WCDMA pilot signal received from the RF antenna and outputting the demodulated WCDMA pilot signal (**Amerga: output of demodulator 230**)

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in column 6 lines [40]); a pilot signal measurement unit (**Amerga: Signal strength estimator 280 in Column 6 line[41]**) coupled to the RF transceiver for measuring an intensity of the demodulated WCDMA pilot signal to generate an  $E_c/I_o$  value; a WCDMA modem (**Amerga: Modem described in column 6 line [32-34]**) and a CDMA-2000 modem (**Amerga: Modem described in column 6 line [32-34]**) coupled to the RF transceiver for processing a digital signal received from the RF transceiver (**Amerga: Receiver 220 in column 6 line [40] along with transmission capability described in column 6 lines [32-34]**) and performing a call processing according to protocols defined by a WCDMA standard (**Amerga: Column 5 lines [17-21]**) and a CDMA-2000 standard (**Amerga: Column 5 lines [17-21] & Column 3 lines [5-15]**), respectively; a memory (**Amerga: Fig 2:270**) for storing a modem-to-modem switching program configured (**Amerga: Column 6 lines [48-51]**) for switching (**Amerga: Modem described in column 6 lines [12-17][21-57]**) between the WCDMA modem (**Amerga: Modem described in column 6 lines [32-34]**) and the CDMA-2000 modem (**Amerga: Modem described in column 6 lines [32-34]**) based the  $E_c/I_o$  value; and a controller (**Amerga: Processor described in column 6 lines [37-55]**) coupled to the pilot signal measurement unit, the memory and the WCDMA and CDMA-2000 modems for

- 1) receiving the  $E_c/I_o$  value from the pilot signal measurement unit (**Amerga: Column 8 lines [45-56]**), and
- 2) loading and executing the modem-to-modem switching program (**Amerga: Instructions described in column 6 lines [48-51]**) from the memory to activate the CDMA-2000 modem (**Amerga: Modem described in column 6 lines [32-34] &**

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**activation takes place based on result of calculation of  $S_{qual}$  &  $S_{rxlev}$  which are based on  $E_c/I_o$  along with the threshold values  $Q_{qualmin}$  &  $Q_{rxlevmin}$ )** if a time lapse during which the  $E_c/I_o$  value is maintained smaller than a predetermined CDMA-2000 ON threshold  $TH_{ON}$ , is greater than a preset CDMA-2000 ON condition time  $H_d$ .

However, **Amerga** fails to disclose specifically Multi Mode-Multi Band terminal which has CDMA-2000 modem & WCDMA modem, **however**, the examiner maintains that it was well known in the art to provide a terminal with multi-mode multi-band which has CDMA modem and WCDMA modem which serves functionally same as MM-MB terminal as taught by **Choi (Choi: Fig 2, 3 & Column 3 lines [56-57])**.

In a similar field of endeavor **Choi** discloses a System and method for implementing a handoff using a multiparty service in a mobile communication system. In addition, **Choi** discloses Dual mode dual band which has CDMA & WCDMA modem.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Amerga** by specifically providing a terminal with multi-band multi mode which has CDMA modem and WCDMA modem as taught by **Choi** for the purpose of implementing handoff between heterogeneous networks (**Choi: Column 2 lines [41-45]**).

28. **Regarding claim 25, Amerga** in view of **Choi** discloses everything in claim 24 along with the controller (**Amerga: Processor described in column 6 lines [37-55]**) loads the modem-to-modem switching program (**Amerga: Column 6 lines [48-51]**) at the moment the  $E_c/I_o$  value starts to be smaller than the CDMA-2000 ON threshold

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THon or when it is determined that the multimode-multiband terminal enters an overlay zone by analyzing system information. This claim is rejected for the same motivation as claim 24.

29. **Regarding claim 26, Amerga** in view of **Choi** discloses everything in claim 24 as above along with after the CDMA-2000 modem is activated and an initialization into a CDMA-2000 system is completed so that the multimode-multiband terminal is switched into a CDMA-2000 idle state, the controller deactivates the WCDMA modem.

Amerga fails to disclose explicitly “the controller deactivates the WCDMA modem.”

However it is obvious to one of the ordinary skill in the art that when switching modems in a MM-MB, it is necessary to deactivate the modem which is not being used for the purpose of conserving power.

30. **Regarding claim 27, Amerga** in view of **Choi** discloses everything in claim 24 as above wherein, even if the CDMA- 2000 modem has been activated based on the  $E_c/I_o$  value being smaller than THon during the time lapse greater than Hd. the controller still deactivates the CDMA-2000 modem if another time lapse during which the  $E_c/I_o$  value is maintained larger than a predetermined CDMA-2000 OFF threshold THoff is greater than a preset CDMA-2000 OFF condition time Hc (**Amerga: Fig 5A, 5B & column 9 lines [06-23]**). This claim is rejected for the same motivation as claim 24.

31. **Regarding claim 28, Amerga** in view of **Choi** discloses everything in claim 24 as above wherein, after the WCDMA modem is activated and an initialization into a WCDMA system is completed so that the multimode-multiband terminal is switched (**Amerga: Fig 5A, 5B & Column 9 lines [12-17][21-57]**) into a WCDMA idle state, the controller deactivates the CDMA-2000 modem. This claim is rejected for the same motivation as claim 24 along with claim 5 as method of MM-MB terminal deactivating the modem after being switched to a particular state will remain identical.

32. **Regarding claim 29, Amerga** in view of **Choi** discloses everything in claim 27 as above wherein information upon the CDMA-2000 ON threshold THon, the CDMA-2000 ON condition time Hd, the CDMA-2000 OFF threshold THoFF and the CDMA-2000 OFF condition time Hc are stored in the memory. This claim is rejected as **Amerga** discloses a processor 260 connected to memory which stores data along with instruction for performing various procedures and methods (**Amerga: Column 6 lines [47-51]**)

33. **Regarding claim 30, Amerga** in view of **Choi** discloses everything in claim 24 as above, further comprising a timer for measuring the time lapse and reporting the time lapse to the controller. **However** Amerga fails to disclose explicitly “further comprising a timer for measuring the time lapse and reporting the time lapse to the controller.”

However it is obvious to one of the ordinary skill in the art that timers or counters are necessary components for general purpose processors to perform calculations for

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time lapse.

34. **Regarding claim 31, Amerga** in view of **Choi** discloses everything in claim 1 as above, wherein the CDMA-2000 modem is activated in step (d) before the MM-MB terminal leaves the overlay zone and while the WCDMA modem is still being activated to keep the MM-MB terminal in the WCDMA idle state (**Choi: column 4 lines [57-59]**). This claim is rejected for the same motivation as claim 1.

35. **Regarding claim 32, Amerga** in view of **Choi** discloses everything in claim 6 as above, wherein the CDMA-2000 modem is activated in step (d) before the MM-MB terminal leaves the overlay zone and while the WCDMA modem is still being activated to handle the WCDMA call (**Choi: column 4 lines [57-59]**). This claim is rejected for the same motivation as claim 6.

### ***Response to Arguments***

36. Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

a. Applicant argues regarding Amerga does not teach or suggest the claimed method of switching between modems of MM-MB terminal. The examiner disagrees as to switch between WCDMA and CDMA-2000 cells, Amerga requires to have WCDMA and CDMA-2000 modems as a part of the cell as mentioned on Column 1 lines [58-61] and the method described in Fig 5A-5B as

cited above.

b. Applicant also argues about Amerga failing to disclose claimed time lapse and preset CDMA-2000 ON condition time Hd. Specifically pointing that claimed time lapse starts if after a determination that  $E_c/I_o$  value is smaller than  $TH_{on}$ .

The examiner disagrees as cited above in claim 1, starting time lapse was not present in earlier set of claims and it's an amended feature.

c. Applicant also argues about Amerga fails to teach step (e) where the MM-MB terminal is switch from the WCDMA idle state into a CDMA-2000 idle state.

The examiner disagrees as cited above in claim 1, claimed feature was not present in earlier set of claims and it's an amended feature.

d. Applicant also argues about Amerga fails to teach claimed memory storing a program for switching between modems, the examiner disagrees, as cited in claim 24 (Amerga: Fig 2:270 discloses a memory connected to processor, its further discloses on column 6 lines [48-55] that it can be used to store data as well as instructions for performing various procedures and methods described herein, which examiner interprets as instruction for switching between modems of the cells are being stored in the memory).

e. Applicant's argument regarding new claims 31-32 are moot in view of new grounds of rejection.

### ***Conclusion***

37. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP



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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Munjal Patel whose telephone number is (571)270-5541. The examiner can normally be reached on Monday - Friday 9:00 AM - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on 571-272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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